CLAIMS

What is claimed is:

1. A trowel blade, comprising:

a pre-finished, hardened and tempered blade having at least two apertures formed therethrough, each aperture having a cross section tapering from a larger opening in a bottom of the blade to a smaller opening in a top of the blade;

at least two cleats, each cleat being disposed in one of the apertures and each cleat having:

a lower portion, deformed within the aperture to have a frusto-conical shape mating with internal walls of the aperture; and

an upper, inverted frusto-conical portion having a lower surface mating with an upper surface of the blade, and an upper shoulder, the upper shoulder extending upwardly from the lower surface of the upper portion and outwardly from a longitudinal axis of the cleat;

the cleats being formed of an integral, rigid material and being collectively configured to provide a substantially rigid interface between the pre-finished blade and a removable handle of the pre-finished blade.

2. The trowel blade of claim 1, further comprising a series of irregularities formed in internal sides of the apertures, the irregularities being configured to engage the lower portion of the cleat when the lower portion is deformed within the aperture to resist rotation of the lower portion within the aperture.

3. The blade of claim 1, wherein the deformed lower portion of the cleats is contained substantially fully between a plane defined by a top surface of the pre-finished blade and a plane defined by a bottom surface of the pre-finished blade.

4. The blade of claim 1, wherein a lower surface of the lower portion of the cleats is recessed in the aperture above a plane defined by a bottom of the pre-finished blade.

5. The blade of claim 1, wherein a lower surface of the lower portion of the cleats is parallel to a plane defined by a bottom of the pre-finished blade.

6. The blade of claim 1, wherein the cleats are deformed within the apertures in a tensioned state such that the cleats are held substantially immobile with respect to the blade.

7. A trowel blade, comprising:

a pre-finished, hardened and tempered blade having at least two apertures formed therethrough, each aperture being circumscribed by an upwardly protruding dimple formed in the pre-finished blade;

at least two cleats, each cleat being disposed in one of the apertures, each cleat having:

a lower portion, deformed within the dimple to have a frusto-conical shape mating with a bottom surface of the dimple; and

an upper, inverted frusto-conical portion having a lower surface mating with a top surface of the dimple, and an upper shoulder, the upper shoulder

extending upwardly from the lower surface of the upper portion and outwardly from a longitudinal axis of the cleat;

the cleats being formed of an integral, rigid material and being collectively configured to provide a substantially rigid interface between the pre-finished blade and a removable handle of the pre-finished blade.

8. The blade of claim 7, wherein the deformed lower portion of the cleats is contained substantially fully between a plane defined by a top surface of the pre-finished blade and a plane defined by a bottom surface of the pre-finished blade.

9. The blade of claim 7, wherein a lower surface of the lower portion of the cleats is disposed in the dimple above a plane defined by a bottom of the pre-finished blade.

10. The blade of claim 7, wherein a lower surface of the lower portion of the cleats is parallel with a plane defined by a bottom of the pre-finished blade.

11. The blade of claim 7, wherein the cleats are deformed within the dimples in a tensioned state such that the cleats are held substantially immobile with respect to the blade.

12. The blade of claim 7, wherein the upper portion of each cleat includes an internal, tapered recess defining the lower surface thereof, the internal, tapered recess mating with the top surface of the upwardly protruding dimple formed in the pre-finished blade.

13. A method of providing an interface between a trowel blade and a removable handle, comprising the steps of:

obtaining a pre-finished, hardened and tempered blade;

forming at least two apertures through the pre-finished blade, each of the apertures having a cross section tapering from a larger opening in a bottom of the blade to a smaller opening in a top of the blade;

disposing a lower, deformable portion of one of at least two cleats through each of the apertures; and

deforming the lower portion of each of the cleats within each aperture such that the lower portion of each cleat mates with internal walls of the apertures.

14. The method of claim 13, wherein the step of forming that at least two apertures through the pre-finished blade includes the step of forming a series of irregularities in internal sides of the apertures, the irregularities being configured to engage the lower portion of the cleat to resists rotation of the cleat within the aperture.

15. The method of claim 13, wherein the step of deforming the cleats includes the step of tensioning the cleats within the aperture such that the cleats are held substantially immobile with respect to the blade.

16. The method of claim 13, wherein the step of deforming the cleats includes the step of clinching the bottom and top of the blade with the cleats to add rigidity to a portion of the blade surrounding the cleats.

17. The method of claim 13, wherein the step of disposing the cleats within the apertures includes the step of inserting the cleats through the smaller opening in the top of the blade.

18. The method of claim 13, wherein the lower portion of each cleat is substantially cylindrical prior to deformation.

19. The method of claim 18, wherein the lower portion of each cleat is a solid cylinder prior to deformation.

20. The method of claim 13, wherein the step of deforming the lower portion of each of the cleats includes the step of applying force to both the upper and lower portion of the cleat to deform the lower portion of the cleat without heating the blade.

21. The method of claim 13, comprising the further step of removably attaching a removable handle to the at least two cleats by engaging the cleats within notches in the handle.

22. The method of claim 13, wherein the deformed lower portion of each of the at least two cleats has a frusto-conical cross sectional shape and an upper portion of each of the at least two cleats has an inverted frusto-conical cross sectional shape.

23. A method of providing an interface between a trowel blade and a removable handle, comprising the steps of:

obtaining a pre-finished, hardened and tempered blade;

forming at least two apertures through the pre-finished blade;

forming an upwardly protruding dimple about each of the apertures formed through the blade;

disposing a lower, deformable portion of one of at least two cleats through each of the apertures; and

deforming the lower portion of each of the cleats within each dimple such that the deformed lower portion mates with a bottom surface of the dimple.

24. The method of claim 23, wherein the step of deforming the lower portion of each of the cleats includes the step of mating a lower surface of an upper portion of the cleat with an upper surface of the dimple.

25. The method of claim 24, wherein the lower surface of the upper portion of the cleat includes an internal tapered recess mating with the upper surface of the upwardly protruding dimple.

26. The method of claim 23, wherein the step of deforming the cleats includes the step of tensioning the cleats within the dimples such that the cleats are held substantially immobile with respect to the blade.

27. The method of claim 23, wherein the step of deforming the cleats includes the step of clinching a bottom and top of the dimple with the cleats to add rigidity to a portion of the blade surrounding the dimple.

28. The method of claim 23, wherein the step of disposing the cleats within the apertures includes the step of inserting the cleats through a top of the apertures.

29. The method of claim 23, wherein the lower portion of each cleat is substantially cylindrical prior to deformation.

30. The method of claim 29, wherein the lower portion of each cleat is a solid cylinder prior to deformation.

31. The method of claim 23, wherein the step of deforming the lower portion of each of the cleats includes the step of applying force to both an upper portion and the lower portion of the cleat to deform the lower portion of the cleat without heating the blade.

32. The method of claim 23, comprising the further step of removably attaching a handle to the at least two cleats by engaging the cleats within notches in the handle.

33. The method of claim 23, wherein the lower, deformed portion of each of the at least two cleats has a frusto-conical cross sectional shape and an upper portion of each of the at least two cleats has an inverted frusto-conical cross sectional shape.